

## OIB - P-3 Orion 04/06/17 Science Report

**Aircraft:**

[P-3 Orion](#) ([See full schedule](#))

**Date:**

Thursday, April 6, 2017

**Mission:**

OIB

**Mission Location:**

Greenland

**Mission Summary:**

OIB completed the high priority Svalbard South mission. This mission was designed to sample sea ice on the eastern hemisphere side of the Pole, within the Russian FIR boundary which had formerly been off limits to OIB. This mission fills in the gap between the ?Sea Ice ? Svalbard North? mission and the Russian islands of Franz Josef Land, Severnaya Zemlya and other minor islands, remaining at least 50 nm away from all Russian land masses. We also flew an ICESat-2 ground track at the far end of the flight line. The return leg was flown at high altitude as continuous headwinds during the mission used enough fuel to prevent low altitude data collection during the entire trip. High altitude ATM and DMS data were acquired during this portion of the line since the skies were mostly clear. In addition to Level 1 Requirements SI1 and SI2, this mission addresses sea ice level 1 baseline requirement SI3d by sampling sea ice in the eastern Arctic. We also flew some 1996/2002 ATM lines over some of the Svalbard ice caps in transit to and from the sea ice, though missing portions of the data due to clouds at times.

The weather forecast for the mission showed mainly clear skies with some clouds on the southern portion of the line near Svalbard and up to Franz Josef Land. This is largely what we experienced, but with some very thin haze present along the eastern portion of the line. Good data was collected through most of the flight, with a small bit of missed data due to clouds near Svalbard. We also had to turn off data collection for a short distance on the sea ice near Svalbard to comply with Norwegian regulations. The ice conditions were quite variable along the flight, varying from more deformed ice near Svalbard to less deformed and compact ice as we went east.

**Data volumes**

ATM: T5: 35 Gb    T6: 113 Gb

FLIR: 15 Gb

Cambot: 41 Gb

KT19: 10 Mb

DMS: 89.6 Gb

MCoRDS: 378 Gb

Accumulation radar: 283 Gb

Snow/Ku radar: 1.0 Tb

data on: 0924

data off: 1715

**Submitted by:**

Nathan T. Kurtz on 04/06/17

**File:**

 [svalbard\\_south.pdf](#)

**Related Flight Report:**

### P-3 Orion 04/06/17

**Flight Number:**

Science Flight #17- Svalbard South Mission (High Priority)

**Payload Configuration:**

OIB Arctic

**Nav Data Collected:**

No

**Total Flight Time:**

8.5 hours

**Submitted by:**

Kelly Griffin on 04/06/17

**Flight Segments:**

<b>From:</b>	ENSB	<b>To:</b>	ENSB
<b>Start:</b>	04/06/17 08:00 Z	<b>Finish:</b>	04/06/17 16:30 Z
<b>Flight Time:</b>	8.5 hours		
<b>Log Number:</b>	<a href="#">17P006</a>	<b>PI:</b>	Nathan Kurtz
<b>Funding Source:</b>	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
<b>Purpose of Flight:</b>	Science		

**Flight Hour Summary:**

	<b>17P006</b>
<b>Flight Hours Approved in SOFRS</b>	333.6
<b>Total Used</b>	307.1
<b>Total Remaining</b>	26.5

**17P006 Flight Reports**

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining
<a href="#">02/24/17</a>	Airworthiness Test Flight	Check	1	1	332.6
<a href="#">02/26/17</a>	Project Test Flight #1	Check	4.9	5.9	327.7
<a href="#">02/27/17</a>	Project Test Flight #2	Check	3	8.9	324.7
<a href="#">03/07/17</a>	Transit Flight	Transit	8.2	17.1	316.5
<a href="#">03/09/17</a>	Science Flight #1 - North Pole Transect	Science	8	25.1	308.5
<a href="#">03/10/17</a>	Science Flight #2 - Laxon Line	Science	8.5	33.6	300
<a href="#">03/11/17 - 03/12/17</a>	Science Flight #3 - Chukchi West Line	Science	8	41.6	292
<a href="#">03/12/17 - 03/13/17</a>	Science Flight #4 - North Beaufort Loop Line	Science	8.1	49.7	283.9
<a href="#">03/14/17 - 03/15/17</a>	Science Flight #5 - East Beaufort Loop Line	Science	8	57.7	275.9
<a href="#">03/20/17</a>	Science Flight #6 - Sea Ice South Basin Transect (to Thule)	Science	8.1	65.8	267.8
<a href="#">03/22/17</a>	Science Flight #7 - North Flux 02	Science	7.9	73.7	259.9
<a href="#">03/23/17</a>	Science Flight #8 - Zig Zag West Line	Science	7.9	81.6	252
<a href="#">03/24/17</a>	Science Flight #9 - CryoVEx Line	Science	5.8	87.4	246.2
<a href="#">03/27/17</a>	Science Flight #10 - Northwest Coastal A Line	Science	7.4	94.8	238.8
<a href="#">03/28/17</a>	Science Flight #11 - North Central Cap 01 Line	Science	7.6	102.4	231.2
<a href="#">03/29/17</a>	Science Flight #12 - Ellesemere Island 01 Line	Science	7.6	110	223.6
<a href="#">03/30/17</a>	Science Flight #13 - Ellesemere South Line	Science	7.9	117.9	215.7
<a href="#">03/31/17</a>	Science Flight #14- Alexander-Petermann Line	Science	6.5	124.4	209.2
<a href="#">04/03/17</a>	Science Flight #15- Zachariae 79N Fram Straight and BGTL ENSB Transit	Science	7.4	131.8	201.8
<a href="#">04/05/17</a>	Science Flight #16 - Svalbard North Line (High Priority)	Science	7	138.8	194.8
<a href="#">04/06/17</a>	Science Flight #17- Svalbard South Mission (High Priority)	Science	8.5	147.3	186.3
<a href="#">04/07/17</a>	Science Flight #18- Combined Zig Zag East Mission and Transit ENSB to BGTL	Science	8.3	155.6	178

<a href="#">04/10/17</a>	Science Flight #19- North Central Gap 3	Science	7.8	163.4	170.2
<a href="#">04/11/17</a>	Science Flight #20- CryoVex 2 (High Priority)	Science	7.8	171.2	162.4
<a href="#">04/12/17</a>	Science Flight #21-Northwest Coastal C	Science	7.2	178.4	155.2
<a href="#">04/13/17</a>	Science Flight #22-North Glaciers 02 Prime (High Priority)	Science	8.2	186.6	147
<a href="#">04/14/17</a>	Science Flight #23-IceSat-2 North/CryoSat-2 SARIn	Science	7	193.6	140
<a href="#">04/17/17</a>	Science Flight #24-Humboldt 01(High Priority)	Science	7.8	201.4	132.2
<a href="#">04/19/17</a>	Science Flight #25-Sea Ice - South Canada Basin (MediumPriority)	Science	7.8	209.2	124.4
<a href="#">04/20/17</a>	Transit Flight to Kangerlussuaq	Transit	3	212.2	121.4
<a href="#">04/21/17</a>	Science Flight #26-Southeast Coastal	Science	8	220.2	113.4
<a href="#">04/22/17</a>	Science Flight #27-Helheim-Kangerd	Science	7.8	228	105.6
<a href="#">04/24/17</a>	Science Flight #28-Geikie 01 (High Priority)	Science	8	236	97.6
<a href="#">04/26/17</a>	Science Flight #29-Devon-Bylot (Medium Priority)	Science	7.9	243.9	89.7
<a href="#">04/28/17</a>	Science Flight #30-Penny 01 (Medium Priority)	Science	6	249.9	83.7
<a href="#">04/29/17</a>	Science Flight #31-Thomas - Jakobshavn 01	Science	8.4	258.3	75.3
<a href="#">05/01/17</a>	Science Flight #32-Thomas - Jakobshavn-Eqip-Store	Science	8.4	266.7	66.9
<a href="#">05/02/17</a>	Science Flight #33-Thomas - ICESat-2 Central	Science	7.9	274.6	59
<a href="#">05/03/17</a>	Science Flight #34-Thomas - Southwest Coastal A	Science	8.3	282.9	50.7
<a href="#">05/05/17</a>	Science Flight #35-Helheim-Kangerdlugssuaq Gap B (High Priority)	Science	8.2	291.1	42.5
<a href="#">05/06/17</a>	Science Flight #36-Helheim-K-EGIG-Summit	Science	8	299.1	34.5
<a href="#">05/08/17</a>	Science Flight #37-Southeast Glaciers 01 (High Priority)	Science	8	307.1	26.5

*Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.*

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